# XIO3

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Victoria, B.C.
CANADA V8S 4G2

*November/*
*December 1990*

GARDEN CITY ATARI COMPUTER ENTHUSIASTS


## Atari News and Rumours

by Rowland Grant

It would seem that the Atari TT is about to be released in North America. The TT is said to have received Type A certification from the FCC in the U.S. Atari needs Type B to sell in the home market. I would imagine that with a bit of fine tuning, Atari will get the TT through in a month or two. Apparently the TT color monitors have the required certification. There are two configurations for the TT. The one for home use, the TTD, has the "wedding cake" case, runs under TOS, and will be supplied with a greatly improved form of GEM that looks much like Gribnif's NEODISK. It's rumoured that the new GEM will be supplied with future models of STE also.

The work station model, the TTX, will be in a "tower" case and will run under the UNIX operating system. Unfortunately, the version of UNIX for the TT is still being developed, so it may be some time before we see the TTX in its tower. One of Atari's targets for this TT version is the education market. Universities seem to be heavy users of UNIX workstations. Atari will have to get a move on to crack this market. Steve Jobs and his NeXT computer have been working on academe for a couple of years. And now NeXT is introducing a 68040 based model, called NeXTstation, running under UNIX and retailing at $5000 U.S. (half the price of the original NeXT model). Also, at least one university has adopted the Amiga 3000 because it runs under a fairly generic UNIX system V.4. This was in preference to the Macintosh running under Apple's version of UNIX.

To get back to the TT, both models have provision for hard drives on board, and probably will be sold with them installed. So the price of a TT will vary depending on the memory and hard drive size. If prices in Europe are any indication, a TT system will cost you between $3000 and $5000. Since 33MHZ 80386 PC clones with 4 megabytes, hard drives and VGA Color monitors are selling for as little as $3000, Atari's minimum price might be realistic for now.

As the Bard says "What's in a name?....". In Atari computers there's always a number in the name. After his success at Commodore with the '64, Jack Tramiel made sure that the Atari names advertised the kilobytes of RAM. Thus we have the Atari 65XE, 130XE, 520ST, 1040ST, Mega2, Mega4.

With the introduction of the TT line it seemed that a different numbering system would be adopted based on the microprocessor used. At a recent Atari fair in California a TT was seen with the label TT030. This leaves an opening for new microprocessors such as the 68040. They couldn't quite break the habit though and had to add the number of megabytes supplied TT030/8. Ah well, it seems unnecessary since you can add more RAM. The same comments apply to the 1040STE. Yes it comes with one megabyte, but it is easy to upgrade to the maximum 4 megs by plugging in new SIMM boards. So "Atari STE" would do just as well.

One computer peripheral that I have seen demonstrated on several occasions is a device for use with overhead projectors. The projectors themselves have been used for years as an aid to speakers and teachers. Transparent sheets bearing text or images (called transparencies) are placed on the flat fresnel lens of the overhead projector. The text or image is projected onto a large screen above and behind the speaker. The computer device in question is a LCD (liquid crystal) screen that takes the place of the transparent sheet. The video output of a computer can be displayed by this LCD "transparency". So what is seen on a monitor screen can be displayed, very much enlarged, on the projection screen above the speaker. So far, only monochrome LCD devices are available, and the projected image is usually not as sharp as one from an ordinary ink transparency. But it's very handy if you want to display the output of a computer program, especially at a club meeting. Up to now, these devices are usually found linked to IBM's and clones. However, I have seen a vague notice to the effect that Atari will be possibly marketing an LCD "transparency" device for ST and TT computers. At the right price it could be a big seller and promote the use of more Atari computers in business and universities.

It would seem that Atari has made some progress into the research world. The TRIUMF particle accelerator at U.B.C. in Vancouver has been mainly supported by government funds. Now TRIUMF is soliciting funds from the public as well, since the federal and provincial governments are cutting spending increases. (Who knows, one day they might even start cutting spending too.) Anyway, Atari's power without the price has become attractive to the directors of TRIUMF, and they have purchased more than two hundred ST's. These are used as smart terminals networked through the serial ports of the VAX mainframes that run the TRIUMF system. The ST's use a VT640 emulator, for text and graphics, and I

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## ATARI NEWS AND RUMOURS

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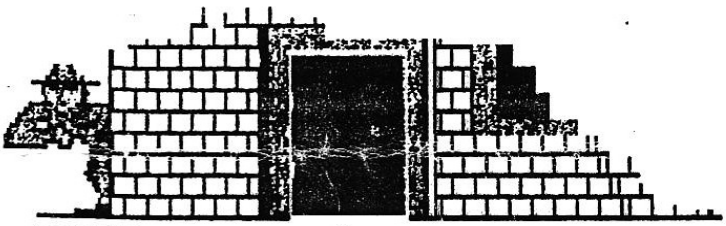
understand that this program is available on a number of major bulletin boards.

About seven or eight years ago Philippe Kahn went from France to Silicon Valley. He founded a software company called Borland International. He started in a room rented above a garage He had one product, Turbo Pascal. This ran on CPM machines and the IBM PC. It sold for less than $50. Turbo Pascal was (and is) an integrated software development system. It combines editor, compiler and debugging utilities. It is easy to use. This was uncommon in the CPM/PC world at the time, (but not in the Atari 800 world). At any rate, code produced by Borland's Turbo Pascal ran faster and was more compact than code produced by Pascal compilers costing ten times as much. In short it knocked the socks off the competition. Turbo Pascal became a best seller. It is estimated that two thirds of all Pascal systems used in the world are Turbo Pascal. With the income from this success, Borland bought other promising language compilers (BASIC, C, Prolog) from small developers. These were enhanced and turned into integrated systems under the "Turbo" label. Up to now, Borland has kept mostly to PC computers. But there have been several reports of Borland's languages running on the ST in Germany. Now there are rumours that Turbo Pascal and Turbo C for the Atari ST are being marketed in Europe. The instructions are in German or Dutch, however the integrated system's drop-down menus are reported to be in English. Since the ST is one of the most popular computers in Germany, Borland may be using this to get a foothold in the EEC.

At the same time, GFA BASIC, which is the most popular development language for the ST, is reported to be moving into the PC market. It's now a rather crowded market. After Borland's success, Microsoft came out with a series of lower priced integrated language systems under the "Quick" label. One of the most popular is Quick BASIC. It is quite modern, it does not use line numbers, it jumps to labels and calls procedures. In general, Quick BASIC has many of the features of GFA BASIC. Another sign of the tough market is that Borland has dropped Turbo BASIC from its product line. If GFA BASIC can be made to run faster, have more features and cost less than Quick BASIC ($70 U.S.), it might have a chance. But where GFA BASIC filled a real need in the Atari world, and looks good on the Amiga, it may be just another BASIC in the land of the PC.

Unfortunately I haven't anything much to report on XE computers. Atari's Bob Brodie confirmed that the XE line is on hold. Earlier he suggested that the low prices of the 520ST would undermine XE sales. I pointed this out almost two years ago. It is a general trend. The low end Macintosh Classic models are cheaper than an Apple IIGS system. The Amiga 500 is getting close to the price of a '64C and drive. There are still publications supporting the Apple II and the '64, but they are getting quite thin. The October issue of STart does have Antic in it. Antic had become so thin that including it in STart should have been fairly easy. Still, they had to cancel the September issue of both magazines to change the format. I understand that Antic subscribers will begin receiving STart with the October issue. There will be no disk with it. Subscribers will receive STart monthly for the full time of their subscriptions. So we XL/XE users are down to part of STart and the New Atari User, but it's better than nothing. Think of the Adam computer users.



## PEEKing around...

... GEORGE ROSE on holiday in his motorhome ... Prez BOB NEX taking a holiday from work and going to school ... RON DE POL having trouble discerning which Thursday is the first of the month. It must have snuck up on him this month ... MIKE HARRISON and BOB NEX giving me good service when I ordered an XEP80 through their 8-bit Arc Mail Order company ... TED SKRECKY having trouble making copies of ST public domain disks at the general meetings. This problem has been solved by having him make copies throughout the meeting. If you need ST disks, check out the November 15 meeting ... JAMES HUNT attending the last general meeting. Good to see you again, Jim ... STEVE LEMMEN trying to get a break from doing computer repairs. Thanks for all your help in previous years, Steve ... Welcome to new members KAREN FAULKNER, JERRY HEVESI, ROB and DIA DEY and DAVID and MARGARET WILLIAMS. My apologies to any new members I may have missed, but the only ones I know about are the people who send cheques by mail ... ROWLAND GRANT will be using his address as the new club address, as he did before we got a postal box. The price increase in postal boxes forced this change ... ST librarian RON THIBODEAU's phone number in his new house is 658-4518 ... Be sure and phone GORD with any embarrasing tidbits of news you have on fellow G.C.A.C.E. members ...

*The Pothole B.B.S.*
300 - 1200 - 2400 baud
**604-642-6795**
*Sysop: Boomer CoSysop: Big Brother*

## COMING EVENTS

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The November 15th general meeting will feature making copies from our ST public domain library. If you have been to a meeting and not had enough time to make copies, Ted Skrecky will be available to make copies for the entire two hours of the meeting, so now is the time to do it. The eight-bit library will be there also.

The topic of the meeting will be the XEP80, which is the 80 column card for the eight-bit with a monitor. Also demonstrated will be copying programs for the ST.

December 2nd is the day to mark on your calendar for a 10 am to 3 pm meeting at George Rose's house. This will be a strictly social meeting with no official club business conducted, but lots of computer talk with fellow Atarians. All G.C.A.C.E. members are invited to attend.

George's address is 7972 Galbraith Crescent. It can be reached from town by turning left off the Pat Bay Highway onto Mt. Newton Cross Road (at the Waddling Dog Inn) and then past two stop signs and turn right on Simpson road. Turn left on Farrel and George's house is at the end of the road on Galbraith.

Hope to see you at both meetings!

Original ST software
Future Wars, graphic text adventure, mouse driven, excellent , $25
Millenium 2.2, space strategy exploration, excellent, $2
Menace, colourful arcade shoot em up, $10
Magazines
Antic, Analog, Compute and ROM back issues, $0.50 each
Books
Your Atari Computer, Compute Machine Language for Beginners, Compute Second Book of Machine Language, 6502 Assembly Language Programming, Mapping the Atari, Atari Basic, Atari Graphics and Arcade Game Design, $10 each
Phone Steven Lemmen at 595-7811

## ST LIBRARY

At the last GCACE executive meeting there was a fairly lenghty discussion concerning the distribution of ST Pd software. As all club members know, the ST library is only open for business at general meetings.

Unfortunately, we have noticed that by the time the business and demo portion of the meeting is over, there is very little time left for the copying of disks. In fact, at the last sacred gathering of the worshippers of the omnipotent Atari XL/XE/ST computers, ST members had a grand total of 3 1/2 minutes to fill their disks with some of our utterly fantastic PD programs.

The executive feels that this is not a very satisfactory situation. So, after many hours of consulting our crystal ball, studying the positions of various stars, and analyzing the molecular bonds of the meat from a Big Mac burger under a microscope, the GCACE executive has come to a decision on how to solve this problem. It was decided that not only will ST users be allowed to copy software during the last 3 1/2 minutes of the general meeting but can also do so during the first 116 1/2 minutes.

Yes, as soon as I have set-up my ST computer, the software library will be open to take your orders. All you need to bring are a few blank, formatted disks.

Nothing too exciting has happened in the last two months as far as obtaining new ST software goes. The only thing I can think of is Sobozon C, a copy of which was donated to our library by Vancouver, B.C.'s most infamous Atari ST GFA Basic computer hacker, Douglas A. Skrecky.

He says that Sobozon is an ok language to play around with but if you want to do some real serious programming, you need a real man's language...

And, of course, that is GFA!! OK, that's all I have got to report for this issue of XIO 3. Hopefully, we will be seeing more of our ST members coming to the meetings now that we can guarantee that there will be ample time for everyone to check-out the ST library. See you there!!!

**Ted Skrecky**

### GARDEN CITY A•C•E• EXECUTIVE COMMITTEE

| | | |
|---|---|---|
| President ..... | 642-6358 | ..... Bob Nex |
| Vice-President. | 727-6173 | .... Ted Skrecky |
| Secretary ..... | 598-3661 | .. Rowland Grant |
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| 8-bit Librarian | 652-0572 | .... George Rose |
| ST Librarian .. | 658-4518 | .. Ron Thibodeau |
| Editor XIO3 ... | 386-0857 | .. Gordon Hooper |

# General Meetings

by Rowland Grant

The September general meeting featured John Picken's talk and demonstration on how to make the most of Epson compatible dot matrix printers. John showed that these printers are fairly sophisticated computers themselves. Without using a word processor or special text handling software, recent models of Roland or Panasonic printers are capable of formatting pages of text with margins and right justification. Fonts can be changed as you go. These printers also have character sets that emulate IBM computer screen fonts, so you can draw boxes around your text and do other neat tricks. A careful study of your printer's manual pays off.

The October general meeting was devoted to graphics. I demonstrated Technicolor Dream, a drawing program for XE computers. It uses GTIA modes to get a lot of colors. The demo pictures looked good on Gordon Hooper's TV. Ted Skrecky did a demonstration of Canvas, a drawing program for the ST. We didn't have the time to do a thorough review of Canvas, however Ted did demonstrate some of the features of the program using a few of his favorite digitized pictures.

For the last several years we have used a post office box for Club mail. Each year the rental fee has increased, going from $25 in 1987 to over $80 in 1991. We have decided that a post office box is a luxury that we can no longer afford. So until further notice, the Club mailing address will be the Club's legal address. This is 1003 Amphion Street, Victoria, B.C., V8S 4G2. Also, after a short run of good behavior, our Minolta copier is on the fritz again. We have agreed to see if it can be fixed. There is some reluctance to spend any more money on the copier. Another luxury perhaps?

Some of us have heard of George Rose's super 8-bit setup but only a few have seen it. George is one of the Club librarians and is holding an open house on Sunday afternoon, December second. George is at 7972 Galbraith Crescent in Saanich, phone 652-0572.

Our ST librarian, Ron Thibodeau, has recently moved and has not been able to handle disk requests for members. Ted Skrecky, our vice-prez has been filling in for Ron at meetings. But we usually have one ST system (Ted's) available. Often it is being used for demonstrations. Recently we have run out of time before we could copy library programs for members. At its last meeting the executive decided that we should devote more time to disk copy making. For those who don't have them, we will try to have up-dated catalogue disks (for ST and 8-bit) available at meetings.

# TECHNICOLOR DREAM

I saw Technicolor Dream by Red Rat Software in the American Techna-vision catalogue. The price was $4.95. That was a price I could not possibly refuse, so I added Technicolor Dream to my order. What caught my attention was the statement that the program was "conceived with a view to improving the quality of artwork associated with games software". Since Red Rat had released a number of excellent games in Britain I was interested in seeing how they might have done it.

The program uses GTIA modes, and these have an oblong pixel. So drawing on the screen with it is like using short brush strokes on a canvas. You draw by moving the cursor over the screen with a joystick . Where you press the trigger, a spot or line is deposited in a prearranged color. The great feature of Technicolor Dream is the menu of 256 colors that it provides. You can select one of these by placing the cursor over the desired color and pressing the Start key. Now you can "paint" in that color. A color can be selected through the keyboard also.

You can put in a background color first using a pair of typed commands. The instructions recommend that you select a color from the color menu and draw a short line of it on one side of the screen. If you assemble all the colors that you want to use in that manner, you need not go back to the color menu very often. For instance, if you are drawing sky and cloud formations first, you could make a light blue background. Then select all the shades of blue and grey that you want as lines at the side. This is your pallette. You can paint the sky and clouds by picking up color from the lines, using the Start key. When you are through, you can paint over your pallette lines. Next you can assemble another pallette of color lines and paint another portion of the screen. There are all sorts of interesting features to aid in getting specific shades of color or blending between adjacent colors. The image can be viewed through filters chosen from any of the 256 colors available.

Technicolor Dream lacks the zoom mode or expanded image mode of drawing programs like Micropainter and Paint. Getting a cursor the size of a pixel exactly where you want it is difficult with most joysticks. This is where a zoom mode, that shows a portion of the image enlarged, is a really needed. I find that the large pixels give somewhat jagged edges to angled lines. The effect of this can be softened by gradual changes of shade (blending) at the boundaries of the image. For some reason, the program only uses every second scan line, so the whole image looks as if it is on some fabric showing horizontal threads. The result is a kind of tapestry effect. In general I find this program most suitable for landscapes or fairly simple scenes. The wide range of colors and shades available can help produce quite interesting images, but hardly the kind that might be suitable for use in most kinds of computer games.

Rowland Grant
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## HOW-TO HARDRIVE

For starters you must have one of the following computers, 600XL, 800XL, 130XE. The 600XL should be upgraded to 64K to allow you the full use of a Hard Drive. You must also have either MYDOS or SPARTA DOS (3.2+). MYDOS is a shareware DOS now, so you could get that from your club library. Sparta DOS on the other hand is not PD, you must buy a copy. You can use Sparta DOS X with a Hard Drive (HD), in fact it is at it's best in this type of environment. Now that I've got that out of the way, I can move on to things specific to the HD.

All of the installation instructions will come with the Interface that you get. What I will do is give you is a list of what you might require if you were leaning towards a HD.

First you need a 'controller interface', This would be a Multi I/O (MIO), BLACK BOX (BB), or the Supra interface (now called K/P interface). The MIO and BB also gives you modem and printer ports as well as a HD controller port.

The controller is next. This is a 'card' that interprets the signals from the computer and the HD and makes it all work. You will need either a SASI (sassy) or a SCSI (scuzzy) controller. you CANNOT use an IBM PC controller. One of the popular controller's is the Adaptec 4000 series. Just a note, some HD's comes with the controller built in. This means you will not need a controller because you all ready have one. The disadvantage is you cannot connect 2 HD's to a controller if it is built in to the drive.

The hard drive is next. They come in various capacities ranging from 1 Meg to over 120 Megs. One important note, it has to be a ST-506/ST-412 compatible drive (all IBM Hard Drives are of this type). Remember, if you get a Hard Drive with a built in controller you will not need a controller.

The last major part is a power supply. You can use any IBM power supply that you can get your hands on. You need this because the controller and HD uses 12 volts DC. Your computer's power supply could not supply the required power or voltage to run the controller and HD. You will also need the required cables to connect the Interface to the controller and the controller to the HD.

After that you will need to format the drive and set up partition's depending on the drive size.

That is about all you will need. Now you ask, how much is all this going to cost? Well, quite a bit if you buy all new equipment. I will give you a break down on what you might expect to spend on a HD system.

I am not sure on the price of the Supra but an MIO or a BLACK BOX will run about $250. It is hard to find a used interface. The controller can run from $20 used (what I got mine at) to $150 new. You will have probably have to mail order both the interface and controller, but you might want to check some of the computer stores around town for a controller. The power supply will run about $50 used and I don't even want to think about new! The big expense seems like the Hard Drive but if you shop around you should be able to find a 20 meg in the $250 to $300 dollar range.

Here is a list so you can see a little better.

| | |
|---|---|
| Interface | $250 |
| Controller | $75 |
| Power | $70 |
| Hard Drive | $300 |
| Cables exc. | $30 |
| Grand total | $725 |

So really it is not too expensive to get a Hard Drive for your 8-bit. My system has a BLACK BOX, adaptec 4000A controller, ST-225 Hard drive (20 Meg), ST-251 Hard Drive (40 Meg). I have used an MIO for 1 year. You can see an 8-bit using a Hard-Drive on my BBS, THE POTHOLE BBS 642-6795.

If you have any questions or want a hand connecting a hard drive give me a call at 642-6358. **Bob Nex**

## PATIENCE

She is a women of great patience.
She knows the area code for Rockford, Illinois.
The letters ICD and UPS make her cringe!
ICD knows her Visa number by heart.
But she is patient.
B.C. Tel loves to add up her long distance telephone bills.
She figures she could pay off the national debt with her long distance phone bills.
But through it all she is patient.
To her Spaceman Spiff is not a cartoon character.
She has yet to figure how an airplane's black box hooks up to a computer, but more importantly, why?
And as always, she is patient.
Every first and third Thursday are evenings off!!
Antic is not something her husband is up to, but what he reads.
To her the Pothole in Sooke is a place you call, not swim in.
Disks are floppy not CD.
She constantly explains to her husband that a bathroom and kitchen are needed and "No, he may not expand the computer room!"
But mostly she is a woman of great patience.

**Jacqueline Nex**

# HARDWARE UPDATE

In this article I intend to provide update information on a number of past articles from newsletters in the last year or so and also discuss a number of items that are of interest which aren't big enough to warrant an article of their own. If any of my update notes are too cryptic, then please refer to the original article for further information. So consider this an end of year wrap up with generous sprinklings of ramblings!

With respect to ST memory upgrades, I said in my Oct/Nov 89 article that some 520 STs used the 256K x 4 bit DRAM in a DIP package but they were unavailable from the electronics suppliers. Well, as of about six months ago they are now available locally. When upgrading 520s look for 33 ohm resistors for the RAS and CAS signals for bank 1. I noticed on a number of 520s that these resistors were left out, so if you upgrade to 1 meg you have to add the resistors also. I took notes on what the resistors were labelled as but can't find the notes now. However it will be obvious to you, first of all your ST won't work at all without them, secondly all three are grouped together between the MMU and the memory chips with traces from one side of them to the MMU and the other side to the memory chips.

If you are upgrading your machine past 1 meg you should be aware that some MMU chips will not work beyond 1 meg. If you have a MMU labelled IMP C0100109-001, you must replace it with a C025912-38. Another problem you may run into, especially if you use an upgrade board instead of a motherboard approach, is that two 74LS373 data buffer chips need to be replaced with 74AS373s which have a higher current driving capacity to drive the additional memory chips. They are the only two 74LS373s on the board so they will be easy to find.

Also some MMU, GLUE and Blitter chips have trouble driving extra memory chips or add on boards, the ones with the IMP logo are most suspect. Substitution is the only way to identify the problem and getting a replacement is the only cure. One last note on memory upgrades. As per my original GCACE article I highly recommend upgrading a 520, external drive, to 2 megs using 1 meg chips. I do not recommend the 1 meg piggy back option even though it is cheaper, it does not allow a further upgrade path and cannot be easily reworked. When my ST memory upgrade article got reprinted in PSAN, it was so heavily edited that my wording had been changed to recommend the 1 meg upgrade, not true, it is the 2 meg one I recommend. This reminds me of the exercise in school where the teacher whispers something to the person in the front row who turns and whispers it to the next person and so on down the line. By the time it gets to the person at the back of the row it has completely changed! Well, enough said on the subject of memory upgrades.

From the number of phone calls I get from people upgrading their single sided drives to double sided and experiencing problems doing so, I would like to remind everyone that I wrote an article on this subject for the February 1990 VISTA newsletter. This article was never reprinted in the GCACE newsletter because of our editor's admirable quest to publish only original articles, however it is available as a text file to anyone who wants it. It goes through the whole procedure in a step by step manner. If you're interested I can even upload it direct to you over the phone if you have a modem.

With regards to my Jan/Feb 90 article on TOS switching, it has occurred to me that there is a better, though more technically involved, solution to the problem. The original motherboard TOS sockets on a six chip TOS set could be rewired to take 512K EPROMs with the high order bit wired to a switch on the side or on back of the computer. Then the original TOS 1.0 chips could be copied into the lower half of all the EPROMs and your new original TOS 1.4 chips could be copied into the top half on the EPROMs. The switch would then select which TOS set is active. The advantage of this approach is that no chip piggybacking is involved. I'm not sure of the legalities of copying TOS into an EPROM but suspect that as long as you retain ownership of original sets of both TOSs, that the EPROM version could be viewed as an archival backup for your own personal use.

I haven't yet figured out the details for this modification since I already have a piggy back version in my machine, but if there is enough interest by club members I may get enthusiastic and do so and document it in a newsletter article. However I would not be able to provide programmed EPROMs or perform the TOS switch modification on anyone's computer.

On the subject of multi computer games, I have discovered and played one additional game that was not listed in my original article in the March/April 1990 newsletter. The name of it is Stunt Track Racer and it allows two computers to be hooked together via the serial port so that two players can race cars against each other. We found the game played well and was responsive but just didn't keep our interest beyond a few days.

Our favourite multi computer game is still Populous. I understand that there is a sequel to Populous called Powermonger which allows up to four players to compete against each other. Actually my information is sketchy and I don't know if Powermonger is by the same company as Populous or whether the four player mode uses four computers or just one shared between players. One thing is for sure, I'll be looking for this one on the computer store shelves.

In a magazine called Computer Gaming World, I also read about some other multi computer games. There is now a

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Battle Chess II, Chinese Chess, it supports two computer play as did Battle Chess I. Command H.Q. by Dan Bunten of Mule fame is a new global strategy wargame that supports two computer play. Operation Combat is a new tank level combat game that supports two computer play as does Flight of the Intruder which is a new combat flight simulator. It wasn't clear if ST versions of these games were available but you can be sure that I'll be watching the shelves for these also.

Since my July/August 1990 article on ST mouseball conversions, it has occurred to me that if you replace the pushbuttons the best type to use may be the lever type doorbell pushbutton switch. They are very easy to actuate and are large enough to be easily accessable. It may be a bit of a hassle to cut the rectangular holes to install them but I think it would be worth it.

Owners of the Atari STe and late model STfs may want to take note of the following. One version of the power supply being supplied in these machines has an inherent design flaw that almost guarantees their early, premature and costly demise. Fortunately though if you are aware of the problem and take corrective action you can permanently prevent the problem from occurring.

The problem is that the main power transistor in the power switching section has a rubber insulating sleeve around it that prevents adequate heat transfer to the heat sink resulting in it eventually overheating and burning out. The reason for this is because the heat sink touchs a trace on the circuit board where a bolt attachs it. This was obviously an inadvertant design flaw because the power transistor and the circuit trace are different parts of the circuit and must not contact each other.

Placing an insulation sleeve around the power transistor was likely a quick engineering assembly line fix to simply meet production and supply demands without regard to the consequences to the end user. The manufacturer was negligent in providing a solution that no real electronics person would have anything to do with, and Atari should be faulted in not identifying this through quality control inspections.

Fortunately this is easy to modify if you take corrective action prior to failure of the power supply. Simply disassemble the power supply and cut the circuit board trace to isolate it from the heat sink. Then use a piece of insulated wire to solder a jumper around the cut trace to mend it. Then remove the insulating sleeve from the power transistor and apply some heat sink compound between the power transistor and the heat sink to ensure adequate heat transfer. Use an ohmmeter to ensure that the electrical connection has been broken between the trace and the heat sink. Reassemble and test your computer, then sit back and rest easy, one less potential problem to interrupt your computing enjoyment.

Another problem that I have run into that is applicable to most ST computers is DMA chips that are socketed. Problems can develop with floppy disks and hard drives due to pin oxidization resulting in open circuited pins. This occurs because of the low currents and high frequencies used by the chip. As I was taught in school, at least 4 ma is required to reliably break the oxidization layer on metal electrical contacts.

This problem can be temporarily solved by removing the DMA chip and then reseating it in it's socket. This will scrape the pins and ensure a good connection. However this is only a temporary solution. The only permanent solution is to remove the socket and solder the DMA chip directly to the board. This requires good soldering skills and also makes it harder to rework the board or troubleshoot it in future but is the only acceptable solution considering the reliability gained, especially if you have a hard drive.

Many ST owners seem to be interested in adding Blitter chips to their machines. I've noticed that many late model 520 and 1040 ST motherboards have all the traces complete with space for a socket to accomodate a blitter chip. If you have one of these motherboards, all you have to do is buy a 64 pin square socket and blitter chip. Solder the socket in place and insert the blitter chip. Remove the solder jumpers from the W2 and W4 jumper pads near the blitter and you're in business.

With the proliferation of software viruses, worms, trojan horses and who nows what else, hard drive users in particular should be wary of any software they use, especially public domain BBS downloaded software. If only there was such a thing as a write protect tab for a hard drive ! Well there is , sort of!

All you have to do is install a switch that connects the Write Gate signal to the Write Fault signal. If an attempt to write occurs with the switch in this position you will get an error message and nothing will be changed on the hard drive. Do this with a DPDT switch that returns things to normal in the other position when you really want to write to the hard drive.

Speaking of viruses, I'd just like to say that the original concepts of these programs were legitimately developed by real programmers to make demo programs that died after a number of uses by the prospective purchaser. Since then unscrupulous individuals have bastardised these original efforts to creat kludges that cause grief to all. About all I can say is pflhooooo ..... never was sure how to spell such a disgusting sound.

A note or two on emulators seems appropriate. It has been noted by a few respected people in the ST world that to successfully emulate another

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computer you must use a computer significantly more powerful than the computer you are emulating. The Spectre 128 and GCR Macintosh emulators are fine examples of this statement. A number of IBM emulators also exist. Please think hard about lowering your standards to emulate a machine less powerful than the one you already own.

If you feel you must emulate to be compatible with work related requirements, please consider that many ST software packages can import, read and write data files compatible with their IBM counterparts. Macintosh emulation I can understand to some degree, Mac software has progressed through a few more generations of revision than their ST counterparts because the Mac has been around a lot longer. But I honestly think that the main reason people want IBM emulators is because they think they can download a pile of 'free' software from their employee's computers at work. Please don't lower your standards to that level.

I understand that there is now an ST emulator available for the Amiga, isn't imitation the sincerest form of flattery? If you really, really must have Mac emulation, go for the Spectre GCR by David Small. And if you really, really must have IBM emulation, go for the Super Charger by Talon Technologies.

Text adventures and graphic text adventures never really interested me much in the past. I guess that was mainly because having to type in your desired actions was always such a hassle. However lately a number of graphic adventure games have come out with a mouse point and click command entry system. They allow you to point at a number of key words under the screen and combine them with pointing at objects and people on the graphic screen.

Additionally the people and objects in the game are animated when you move them. To me this is the way graphic adventures were meant to be played! We have played and completed Zak McKracken, Indiana Jones and Future Wars. All three are excellent games. Also there is Maniac Mansion and the Secret of Monkey Island, two that we have not yet played but will as time and funds permit.

Actually I must confess that there is one graphic text adventure series that I do play where typing in commands is required. That's the Sierra Leisure Suit Larry series. Leisure Suit Larry I and II were so much fun that embarking on Leisure Suit Larry III is unavoidably imminent. Other than that though, from now on it seems to be only point and click graphic adventures for me.
In the last 8 bit Arc Mail Order Co. ad on the back of the Sept/Oct 1990 newsletter, I noticed that a Video Light Gun and a number of game cartridges are available for the Atari 8 bit computer. Apparently it is compatible with all 8 bit computers, you don't need to own the XE game machine. This sounds like a great add on to the 8 bit computer and could also be the subject of a good demonstration for a future club meeting. Any volunteers out there who may own the light gun?

If you have any ideas or requests for newsletter articles that are hardware related, please let me know and I will try to concentrate on things that are of interest to the GCACE membership that also twig my interest. As mentioned earlier, one idea is a project on ST TOS switching with two TOSs in a single EPROM set to avoid piggybacking. Some other ideas include an ST drive side switch to allow double sided drive users to use both sides of a disk as single sided disks, this is perfect for saving games to the back of a single sided disk that requires a separate save disk, it also reduces the number of disks required to make backup play versions of your originals. I've been using a mod like this in my computer for over a year now.

A further idea is a project on making an ST disk drive track stepper display. This box would show what track the drive was on, which side and which drive the computer is accessing. This would be a useful diagnostic tool. Another idea is an article on ST diagnostic test programs. What's available and how to use them. Another idea is how to build an internal ST dual monitor switch so that you can have both your colour and monochrome monitors plugged in at the same time and switch between them with a toggle switch on the back of your computer. Another idea is how to hook your ST or 8 bit computer sound output into your stereo. Another idea is how to construct a 4 player adapter for use with programs such as Guantlet II or Leathernecks. If any one has any further ideas or requests please let me know and I'll consider them!

One last thing needs to be said. Those of you who have been with the club a number of years probably know me as someone who can occasionally be relied on to help out people with hardware problems. In the beginning days of the club this wasn't a problem. In fact it helped inspire me to figure out all kinds of Atari computer related modifications, fixes and upgrades.

For instance, years ago when a club member wanted his 800XL upgraded to 256K from 64K, I first performed a 256K upgrade to my own machine, using it as the guinea pig, before doing the upgrade to the club member's machine. Afterwards there was a certain satisfaction in seeing the club member enjoying his extra memory and also it forced me to upgrade my machine months ahead of when I may have got around to it on my own.

However, over the years I have spent way too many evenings burning the midnight oil for no real satisfaction or reward. Evenings that I could have been
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## ATARI CARES

Atari actually cares about people who have bought their equipment. I know this sounds like heresy to long-time Atarians, but I have proof to back this claim up.

Roughly a year and a half ago, I bought a new XF551 drive from A&B Sound. It worked fine for three months, and then it quit. This was about two weeks after the warranty expired. You can imagine that I used a large portion of my extensive naughty-language vocabulary in describing my thoughts about Atari.

The first place the drive ended up was at Steve Lemmens' place for repairs. He examined it and determined that the SIO cable had ruptured solder connections in the drive after being repeatedly plugged and unplugged. This was necessary as the SX212 modem I used was a dead-end because it only has one SIO cable connection on it. Any time I wanted to use the modem, I had to remove the printer interface cable from the XF551 and replace it with the modem cable.

Steve remedied the situation by hard-wiring the solder connections from the top to bottom of the circuit board. He also grafted another SIO cable onto the printer interface and thereby enabled both the modem and printer to be connected at the same time. Problem solved, thanks to Steve.

In your dreams. The drive functioned properly for another couple of months, and then went dead again. It took another trip to Steve, and he determined he couldn't help as he did not have the schematic drawings for the drive, and there were many undetermined problems with it.

It just so happened that I was going to Seattle right around that time, and I took a trip to Butler's Computer Service to see if they had the drawings and could repair it. I was informed they could, so when I got back to Victoria, I couriered the drive to them. This cost $35.

I promptly received a phone call from Butler's saying the machine was so fried that it would cost more than buying a new one to fix it. They suggested I get in touch with Atari Canada to see if I could get a unit exchange. This means that you send your drive to them and they send back a new one for approximately $100. This didn't make me happy as I had paid $230 for the drive originally and $35 for the courier plus $25 to Butler's for their work, so it was into me for $290 so far.

However, after some thought, it appeared the only way I was going to get any use from the drive was to take Butler's suggestion. I contacted Murray Brown, Western Canada Atari representative in New Westminster and learned Atari Canada didn't have any more new XF551 drives to make the unit exchange. AAARRRGH!. Murray, though, intimated that if I sent it to Atari, they possibly could repair it.

Trying to cut my losses, I mailed it Parcel Post to Atari Canada in Toronto rather than using a courier again. This only cost $9. I included a letter describing my travails with it and asking that they not repair it until they had informed me of the cost. That was the last I heard of it.

Members of the Garden City Atari Computer Enthusiasts executive committee will confirm I brought this up at each monthly meeting for four months, along with a lot of bad words directed at Atari Canada. After about three months, I sent a letter to Atari asking what the hell had happened to my drive. This received no reply either. I naturally assumed it had somehow entered a black hole in space and would never be seen again

This is where the good part comes in, along with the reason for this article. After all the abuse I directed at Atari, I felt it necessary to make it known publicly when they do something right.

Returning home one evening, I discovered a package from Atari and it was my drive. I immediately hooked it up and sure enough, it worked. Atari Canada had put a new unit into my original plastic case and sent it to me with no charge whatsoever. Fantasic! It even had a seal over one of the screws indicating it had another three month warranty. After giving the whole thing up as a lost cause, I had a new drive. Thank you Atari Canada. You have restored my faith in corporations. After all, this was an eight-bit unit which they don't even manufacture or sell any more.

This excellent treatment means that my next computer will definitely be an Atari. It took a while, but they treated me right.

**Gordon F. Hooper**

**HARDWARE UPDATE**

(Continued from Page 8)

working on my own projects or just simply enjoying computing. Therefore my new years resolution is, number one, not to help any non-Atari club members with their computer problems, and number two, to start exercising my option to say, thanks, but no thanks, when approached by club members with hardware problems.

If this happens to you, please don't feel insulted, it's nothing personal, in fact it seems like an entirely natural evolutionary outcome to the whole process. I will continue to persue Atari computer related modifications, fixes and upgrades, as they interest me, and continue to document them in newsletter articles. However, I can provide absolutely no guarantee that I will help anyone with their own machines beyond friendly and informative conversation. If there are any budding electronics types out there, I'm more than willing to share any technical information I have. I've always believed that stress and deadlines are the best incentive to learning, so if you're interested I can only encourage you to jump in with both feet!

**Steven Lemmen**

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